Traffic Engineering
Major Strategies- 2002

The following are the principal strategies that will be developed in FY 2002 to address the County's most critical traffic challenges while promoting more efficiency and productivity within the Section. Some will require collaboration with other County and municipal entities, while others relate to using new technical innovations or applications, employing more effective internal procedures, pursuing more effective use of existing talent, and developing more creative operating systems that produce measurable gains.

As a result of the planning process, it has become clear that…
Traffic Engineering Performance Depends On:

- ❑ Organization Design
- ❑ Technical Capability (knowledge & skill)
- ❑ Internal & External Collaboration
- ❑ Technical Capacity (equipment, facilities, & FTEs)
- ❑ Detailed, Measurable Planning
- ❑ Clarity & Direction
- ❑ Culture & Leadership

The following are the most essential strategies identified during the strategic planning process. However, more actions and strategies will be identified as the months unfold, and then incorporated into this plan.

Strategy #1

Accelerate the Section's organization improvement review. Make this a stakeholder process to examine how more productivity, efficiency, and collaboration can be gained, and to establish an ownership of the successful implementation of the process. Establish an Organization Improvement Council (OIC) to analyze the internal issues identified during the strategic planning process and establish 'action teams' to address the issues. Formalize the OIC as an identifiable "matrix" unit within the organization that has participation from Division staff at all levels within the organization.

Strategy #2

Create and conduct a core-competency based training needs assessment to determine the extent of existing technical skills among Section staff, as well as those additional skills essential to continue and expand quality work output. Determine core skills needed within the Section and within each work unit to develop the basis for training programs in each skill set. Develop the framework for a comprehensive employee training and professional development program. Based on the above assessment, this 'curriculum' would serve as the foundation for core training and orientation classes, and for continuing education based in the Division.

Strategy #3

Review the Section's anticipated needs for information technology and data, revising as necessary to reflect current and projected hardware and software requirements for all staff. Conduct an assessment of existing technology and information technology planning on which to base an updated plan targeting 2002-2003. This planning will provide the basis for meeting technical needs that relate directly to productivity and operational efficiency.

Strategy #4

Develop a clear and efficient means for all section staff of communicating issues, needs, and programs to the public and the business community. Maintain a balanced public information program that regularly communicates with other public agencies, local businesses, interest groups, and the media. Ensure that every project has a planned component for public information, and that it is planned in the proper sequence with the proper information. Coordinate and support the Engineering Services Section in this effort.

Strategy #5

Schedule a series of meetings (monthly) with the inside and outside technicians, engineering, construction services, signs and markings, inspectors and leads to discuss future project lists relevant to traffic needs in order to foster better communication between work groups. Provide monthly updates on project status of "in-house" as well as contract city projects.

Strategy #6

Continue to refine both strategic and operations planning while expanding existing plans. Convene the strategic planning team monthly to review plans, discuss format/content amendments, and refine schedules.

Establish clear goals, annual objectives, and specific actions through the strategic planning process that will be reviewed and measured annually and reported to the Road Services Division. The Section will not shy away from setting high standards, goals, and objectives, then striving to meet them.

Strategy #7

Conduct a study of the King County traffic signal network to assess signal optimization and timing alternatives and update the signal Level of Service (LOS) map by July, 2002. Intersections with the highest LOS will be selected for signal optimization and signals along corridors will be updated and synchronized. Approximately 30 signals will be updated.

Develop an Intelligent Transportation System (ITS) Strategic Plan, by July, 2002. The ITS Strategic Plan will help engineers, managers, and policy makers effectively select the locations and technology in implementing ITS on roadways in King County. The ITS Strategic Plan will also be a tool to solicit grant dollars to study, design and construct Intelligent Transportation Systems, thus making King County more competitive for Federal and State grant dollars.

Strategy #8

Develop a "pictorial essay" that reviews County growth in land development and traffic volume, with detailed information regarding traffic and congestion. Demonstrate and present the recent history of population growth and its impact, growth projections, and the required fiscal resources to meet the growth. Demonstrate growth and issues that clearly provide a means to draw clear conclusions about events and conditions in the County. Demonstrate the resultant challenges facing the Section.

Strategy #9

Strengthen policies that support existing project management framework and protocols for all units involved with various design or service aspects of each project. Review current project planning and coordination activities and explore identified issues that inhibit project planning and implementation or management effectiveness. Work to determine new efficiencies to make the current system stronger and more effective.

Strategy #10

Begin an outreach program with community groups and local agencies to identify mutual issues, goals, and strategies, and to seek opportunities for collaboration. Work cooperatively with area universities and use students for various special projects, research and data analysis. Supplement Section FTEs with students needing research or experience credits.

Strategy #11

Upgrade Traffic Engineering's Safety Management System, including inventory, priority arrays, mapping and database integration for the accident inventory system, HAL/HAR, guardrail, signals, and non-motorized improvement programs to clearly identify needs and solutions. Complete the new accident inventory system with records of location, time, date and type of accident with desktop access to Traffic Engineers. Prepare the Annual Safety Report for 1997 through 2000 accident information by January 2002.

Strategy #12

Prepare clear documentation on the extent of outdated County policies and procedures, and the degree to which they inhibit productivity, waste limited funding, and unnecessarily delay construction, maintenance, and development permitting projects. Partnering with Engineering Services, become a leader for innovation and change, sound analysis, and realistic solutions that will result in significant productivity gains for all County agencies.

Strategy #13

Utilizing the current recorded accident information from the new accident inventory system, update the HAL/HARS lists every 3 years, beginning in 2002. Pursue funding for design and construction of improvements on the HAL/HARS lists on an ongoing basis and complete before/after studies. These studies will assess the effect of safety improvements and provide for continued improvement of the program. The investment made in this program will reduce the frequency and severity of accidents and their cost to society.

Strategy #14

Evaluate value and cost efficiencies of expanding the Renton Traffic Maintenance shops in Renton. The volume of work has placed substantial burden on the Inside Traffic Signal, Signs & Markings, as well as other Traffic Maintenance Units -- all of which have restricted available workspace and increasing production demands. With efficiency, productivity, and safety at stake, a complete evaluation will be undertaken to determine cost-benefit of an expansion, and its potential sequence.

Strategy #15

Using GPS, map all pedestrian facilities in school vicinities, and identify where facilities are lacking to better anticipate future needs.

Pursue additional funding for the School Pathway Program to increase the number of projects constructed per year by 50%.

There are currently an average of 25 School Pathway projects completed per year. Pursue additional funding in the Pedestrian Safety & Mobility Program (3P) to construct 3-4 additional projects per year. Approximately eight projects are currently completed per year and there is a backlog of about 90 projects.

Strategy #16

Perform a study for signal electrical component replacement for the Signal Control Replacement and Maintenance Program. Fund a $100K study for signal electrical component replacements. There are approximately 100 controllers inventoried for replacement. $1M annual budget is needed to replace both controller & electrical components for a six year period.

Strategy #17

Continue program to complete conversion of red incandescent signal lights to red LEDs. Convert 129 intersections from green incandescent signal lights to green LEDs for cost savings. Increasing electrical and maintenance costs have emphasized the need to immediately implement the plan to convert green lamps to LEDs.

Strategy #18

Restore the new guardrail installation budget to its previous level of funding. Provide funding to complete priority arrays for guardrail/bridgerail retrofit and new guardrail construction during 2002.

A comprehensive inventory of King County's guardrail and bridgerail systems was recently completed. Pursue funding a guardrail retrofit program for the replacement of approximately 30,000 linear feet of guardrail. The upgraded systems would be those at the highest risk locations, selected based on the Retrofit Priority array.

Strategy #19

Complete the Contract City Traffic Services Guidebook. The guidebook will include approximate unit cost, scope of work and services available to the contract cities, and information to increase efficiency in the process, scheduling and construction of discretionary services.

Strategy #20

Aggressively solicit additional monies through grant opportunities and other funding sources by applying for grants and entertaining partnerships in 2002. Assign and train staff on grant writing and identification of funding sources. Develop a database with criteria, milestone, and submittal dates (call for projects). Establish monthly grant review meetings.

Strategy #21

Implement a 3-year phased program to expand the Traffic Engineering Web site to:

- **Provide more information about Traffic Engineering Programs.**
- **Begin an interactive site for public review and comments to supplement open houses and workshops such as recommendations identified by Community Advisory Groups in the Neighborhood Enhancement Program.**
- **Make available educational traffic safety materials and information that can be used by the general public and school districts.**
- **Expand on the information provided to commuters and general travelers, such as traffic cameras and development of traffic flow maps.**

Strategy #22

Traffic Information Management System (TIMS)--
Develop and implement a new integrated computing system/network to address inventory & data management, data warehousing/integration, GIS/GPS integration, web server, and SQL server applications for the Traffic Engineering Section.

The Traffic Information Management System three-year phased plan includes:

- **Build a client/server based application that houses Traffic Engineering's key program data.**
- **Train staff to utilize ArcView and ArcExplorer software programs.**
- **Map traffic inventory, priority arrays, and requests in ArcView.**
- **Remove critical data from local desktops to secure server.**
- **Install SQL server in RSD to warehouse Traffic databases, inventory, and mapping programs.**
- **Coordinate at the Division level to ensure compatibility.**
- **Create a centralized relational database management system that can be accessed via Intranet/Internet, Microsoft Access, and GIS-based applications.**